A Proposal for an Environmental Information Partnership in the Moose River Basin

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First Nations

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Government of Ontario

Ministry of Environment and Energy

Ministry of Culture, Tourism and Recreation

Ministry of Northern Development and Mines

The Ontario Native Affairs Secretariat

EXECUTIVE SUMMARY

The goal of the Environmental Information Partnership (EIP) proposal is to develop an information management system to assist in the identification and evaluation of cumulative effects. It will not itself be a cumulative effects assessment (CEA), but it will assist agencies and proponents, within existing decision-making processes, to consider the cumulative effects of development in the Moose River Basin. The EIP will provide a basis to assess cumulative environmental impacts of development within the Moose River Basin.

The Report of the Provincial Representative - Moose River Basin Consultations (David de Launay 1992) supported the development of a proposal to implement a baseline data collection initiative. This report was endorsed by Cabinet in April 1992. The Environmental Information Partnership proposal is in response to direction from Cabinet.

The EIP proposal is the result of a cooperative effort by a Task Group comprising three key partners: First Nations (Wabun and Mushkegowuk Tribal Councils), federal government (departments of Fisheries and Oceans; Environment and Indian and Northern Affairs Canada), and the provincial government (ministries of Natural Resources; Environment and Energy and Northern Development and Mines).

Consultations were undertaken with First Nations Tribal Councils, industry (mining, timber and hydroelectric power), Basin stakeholders, as well as governments (Federal, Northwest Territories, Alberta) involved in similar initiatives outside the Basin. The objectives of the EIP are consistent with current government policy direction, including watershed planning and ecosystem management.

The EIP will result in benefits to all partners and participants, and to proponents of existing and potential future developments in the Basin. It will improve the efficiency and cost-effectiveness of development proposal review and approval processes by facilitating the acquisition, access and management of information. Partnerships amongst Basin stakeholders will be reinforced through working relationships that recognize common stakeholder values, concerns and information needs.

The EIP will be directed by an "arms-length from government" Board. The Board will meet periodically and be composed of representatives of government (Federal, Provincial, First Nations) and Basin stakeholders. The Board will be supported by three committees (Biophysical Sciences, Social and Economic Sciences, and Traditional Knowledge). Information management and administrative support will be provided through a study office.

EIP implementation will occur over three phases. Phase 1 (initial "Start-Up" year) will establish the infrastructure (board, committees, study office), assess existing data, initiate pilot studies and identify the need for new information. Phase 2 includes development of the information management system, establishment of the information base, and continuing to assemble information and identify gaps. Phase 3 will focus on management of the acquired information base through model development and refinement. Less emphasis will be placed on the acquisition of new information.

Information products would be available to agencies and participants for use in management decision-making processes as early as one year following implementation. Predictive models will be developed from, and as part of, the EIP information products and will contribute to the development of watershed management goals. Stakeholder values expressed through the EIP consultation processes will be products in themselves. A business plan will be developed during Phase 1 to fully identify potential non-tax revenue (cost-recovery) opportunities.

It is also anticipated that, throughout the EIP development, new policies and legislation will be tested, and old ones challenged. Given that it will unite representatives of all the concerned governments, the EIP will play a dynamic role in improving the relevance of policy, particularly in the areas of cumulative effects assessment, information management and sharing, industry/First Nations/government partnerships, and cooperative research.

Total financial contributions from the provincial government are estimated at $9.25 million over nine years. The provincial contribution is viewed as seed money. Contributions, including "in kind" contributions, from other sources are expected to at least double the provincial contributions on an annual basis.

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1.0 Introduction

The Moose River Basin is defined as the entire watershed of the Moose River, which extends from the outlet of the Moose River into James Bay, south beyond the communities of Kapuskasing, Cochrane, Iroquois Falls and Timmins (Figures 1 and 2). The aboriginal population in the Basin and along the James Bay coast presently numbers about 10,000. Approximately 80,000 non-aboriginal people live in the Basin, with more than half of these people residing in Timmins, a major mining centre. Other communities (e.g. Kapuskasing, Cochrane, Moosonee) depend on forestry, tourism and hydroelectric power generation as an economic base. As of 1990, there were 15 hydroelectric generating stations in the Basin, all on the Mattagami and Abitibi rivers. The potential for future resource development in all sectors is considered high.

In 1989 Ontario Hydro's Demand Supply Plan Report (DSP) identified the potential for additional hydroelectric development in the Moose River Basin through the construction of six new dams and generating facilities and the extension of six existing generating stations. The developments would add 1890 megawatts to the provincial electricity supply.

Concerns were raised both domestically and internationally, with regards to hydroelectric development conflicts with environmental protection and aboriginal rights. In response to the DSP, aboriginal people requested a moratorium on all hydroelectric development in the Basin.

The need to develop the ability to assess cumulative impacts has been clearly and consistently articulated by First Nations of the lower Moose River Basin, particularly during their involvement in the DSP Hearings. Regarding any future environmental assessment process, the First Nations stated:

- the process must address the cumulative impacts of the planned hydroelectric developments in conjunction with other past, current, or probable development in the Moose River Drainage Basin and elsewhere in James Bay; and

- the process must incorporate and use Cree knowledge, understanding and interpretation of ecological and sociocultural phenomena and processes (MF/NP, 1990).

Figure 1. The Moose River Drainage Basin , Provincial Setting

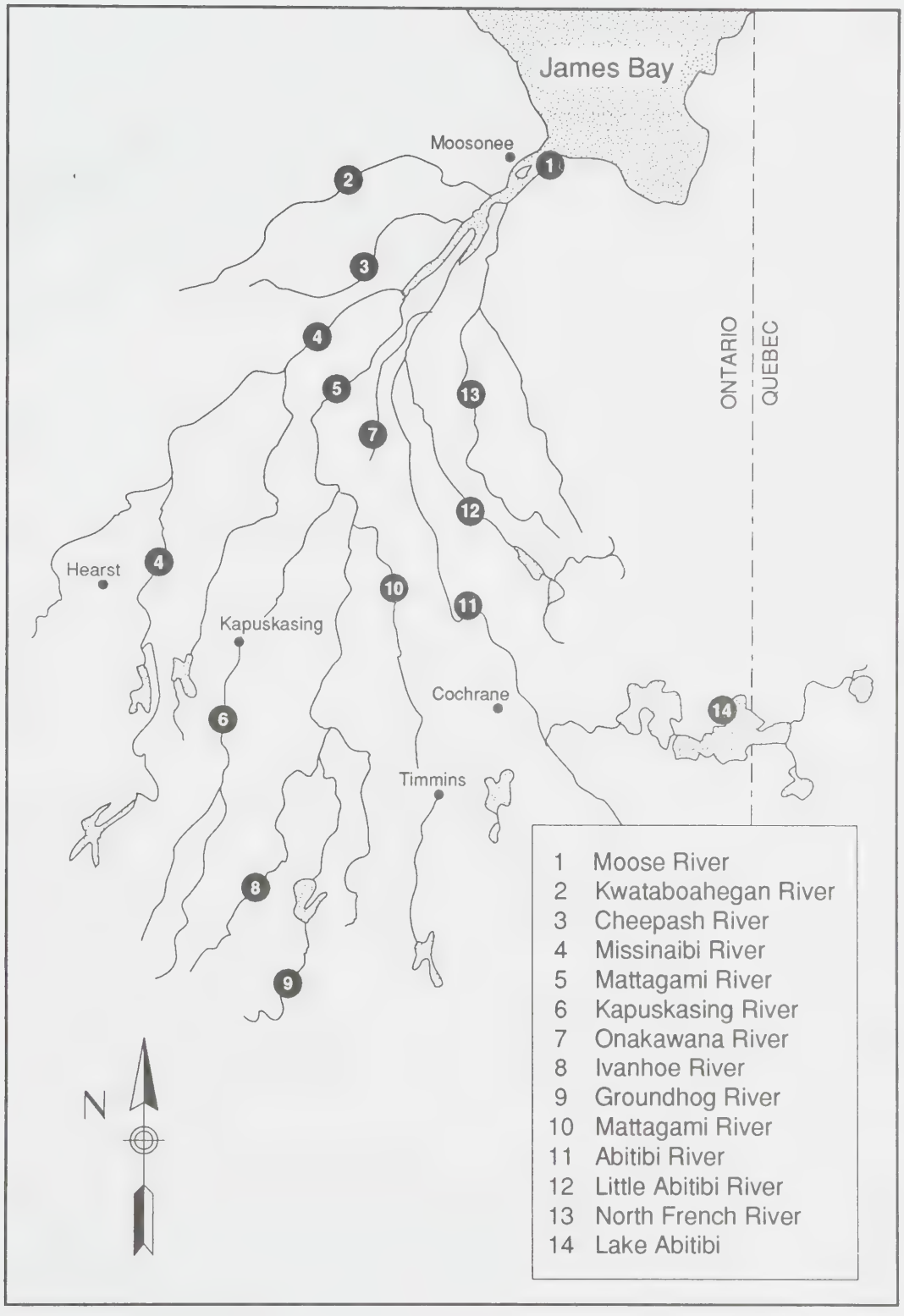

Figure 2. The Moose River Basin and its Major Tributaries

In 1992, the Report of the Provincial Representative - Moose River Basin Consultations (David de Launay) was endorsed by the Ontario Government. During de Launay's consultations, the First Nations again indicated the need for cumulative effects assessment (CEA) of proposed developments and highlighted the lack of an adequate information data base. As a result of de Launay's report, Cabinet committed to the development, over time, of a baseline data collection initiative to provide a basis to assess the cumulative environmental impacts of development within the Moose River Basin.

The collection of data on a watershed basis demands an efficient information management system which can provide information products to agencies and proponents and can be used within existing decision-making processes. These products can be used as a planning tool to encourage economic activity that is environmentally sustainable (Okrainetz, 1993).

Planning and development initiatives will soon be under the scrutiny of a new era of environmental legislation. For example, the new Canadian Environmental Assessment Act will require that development proposals be reviewed in consideration of cumulative impacts.

A task group was formed (April 1993) to develop a proposal for a baseline data collection project. It comprised three key government partners; First Nations (represented by Wabun and Mushkegowuk Tribal Councils), the federal government (represented by the departments of Environment, Fisheries and Oceans, and Indian and Northern Affairs) and the provincial government (represented by the ministries of Environment and Energy, Northern Development and Mines, and Natural Resources). This proposal's scope and intent reflect the views of these contributing partners. The title, Environmental Information Partnership, has been chosen by the partners as a more descriptive term for this initiative.

This proposal represents the first step towards addressing the concerns of First Nations and other stakeholders. The proposal describes the overall goal, objectives and operational structure of the Environmental Information Partnership (EIP), outlines an implementation strategy, estimates funding requirements, and describes the roles and responsibilities of the various governments and stakeholders.

1.1 Goal and Objectives

The Goal of the Moose River Basin - Environmental[1] Information Partnership is to develop an information management system for the Moose River Basin to assist in the identification and evaluation of cumulative effects for planning and development purposes.

The objectives of the EIP are to:

- respond to government, First Nations' and stakeholders' concerns with regards to the lack of a framework to address CEA in the Moose River Basin;
- provide a forum in which to share and prioritize government and stakeholder values independent of any specific development proposal;
- based on priorities and fiscal capabilities, compile and evaluate existing information, and identify data gaps and information requirements in a cost-effective manner; and
- identify "desired future conditions" and/or critical benchmarks through continuous evaluation which will enable the EIP to be dynamic and responsive to evolving priorities.

The EIP will <u>not</u> be a cumulative effects assessment study in itself. It will be an information management system established as a prerequisite for assessing the cumulative effects of proposed developments.

[1]Environment, in the context of this proposal, follows the legal definition as outlined in the Ontario Environmental Assessment Act, and therefore includes socioeconomic as well as biophysical environmental components.

1.2 EIP Description

The EIP proposal calls for the development, over time, of a baseline of data, to be assembled and managed in a manner that allows for cumulative effects assessment (CEA) of potential developments. The baseline data will describe existing conditions of the biophysical[2], social, cultural and economic aspects of the environment. In essence, the EIP will develop an information management system which will serve as one tool available to agencies in their decision-making processes relating to the cumulative effects of development in the Basin.

The EIP will contribute to the identification and development of goals for the watershed, based on stakeholder values expressed through the EIP consultation processes.

The information management system must reflect an ecosystem approach and be capable of the integration of results in a useful manner. An ecosystem approach to planning expands on traditional orientations in several ways:

- it provides early and systematic insights into the relationship between existing and potential land uses and the health of ecosystems over time;
- it is based on the recognition that ecosystems have stress limits; and
- it requires that ecological goals be treated equally and simultaneously with economic and social goals (MOEE,1992).

Data-collection priorities will be determined on the basis of the values expressed by Basin stakeholders and through the application of the ecological understanding of experts. Commissioned studies will focus on identified gaps in the existing information base. Ultimately, models will be developed from, and as part of, the data. The information (including the models) will then be available to agencies, participants, and proponents for use in decision-making processes.

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[2]biophysical, as used in context of this proposal, refers also to geosciences (e.g. geophysical processes).

Conducting CEA at the watershed level requires several prerequisites, which include: environmental objectives, good baseline information, and meaningful indicators[3] (Davies, 1993). Cocklin (1992) recognized three main objectives in pursuing a watershed level CEA:

1. To develop an understanding of the current state of the environment and of the cumulative change processes now operating;

2. To identify how cumulative effects in the past have conditioned the existing environment; and

3. To establish priorities for future environmental management, based on current policies and likely future developments. The ecosystem approach must be applied in the development and implementation of the EIP in order to provide the necessary tools for future planning and assessment of resource development scenarios.

The following principles were developed through input from Task Group members and preliminary consultations with Basin stakeholders. The EIP initiative:

- should be a source of information to assist in decisions and to provide stability to the federal and provincial regulatory processes;

- should not of itself limit or discourage development (ESSA, 1993);

- will be truly representative, fluid and flexible, with input from all interested stakeholders [includes Basin community representatives]. Consequently, the voices of industry, governments, environmental groups - both proponents and opponents of development - must be heard (ESSA, 1993);

- should identify the need for overall direction from an "arms-length from government" entity; however, it is most feasible for government to take the lead in the initiation of the proposal; and

- needs to include the capability for continuing evaluation, communication and consultation.

[3]A successful integrative indicator is one that is characteristic of a healthy, or unstressed system, is sensitive to a variety of stresses and helps identify stresses acting on the system (Davies 1993).

2.0 EIP Organizational Structure, Role and Function

The following structure was generated in consideration of the foregoing principles. Figure 3 illustrates the concept.

2.1 The EIP Board

The board will be established by the three key partner governments. The mandate of the board will be to implement the EIP goal statement "to develop an information management system .... to assist in identifying and evaluating cumulative effects...".

Tasks for the board during its first year would be to:

- review, amend if necessary, and confirm the goal and objectives of the EIP;
- develop and approve a multi-year work plan and budget to implement the EIP;
- provide overall direction to the study office;
- recruit, select and appoint members of the biophysical, social and economic sciences, and traditional knowledge committees; and
- integrate and establish linkages between the board, study office, and advisory committees.

The EIP Board will initially comprise eight to ten representatives made up of First Nation, federal, provincial and/or municipal governments as well as members of educational, industrial and public interest institutions.

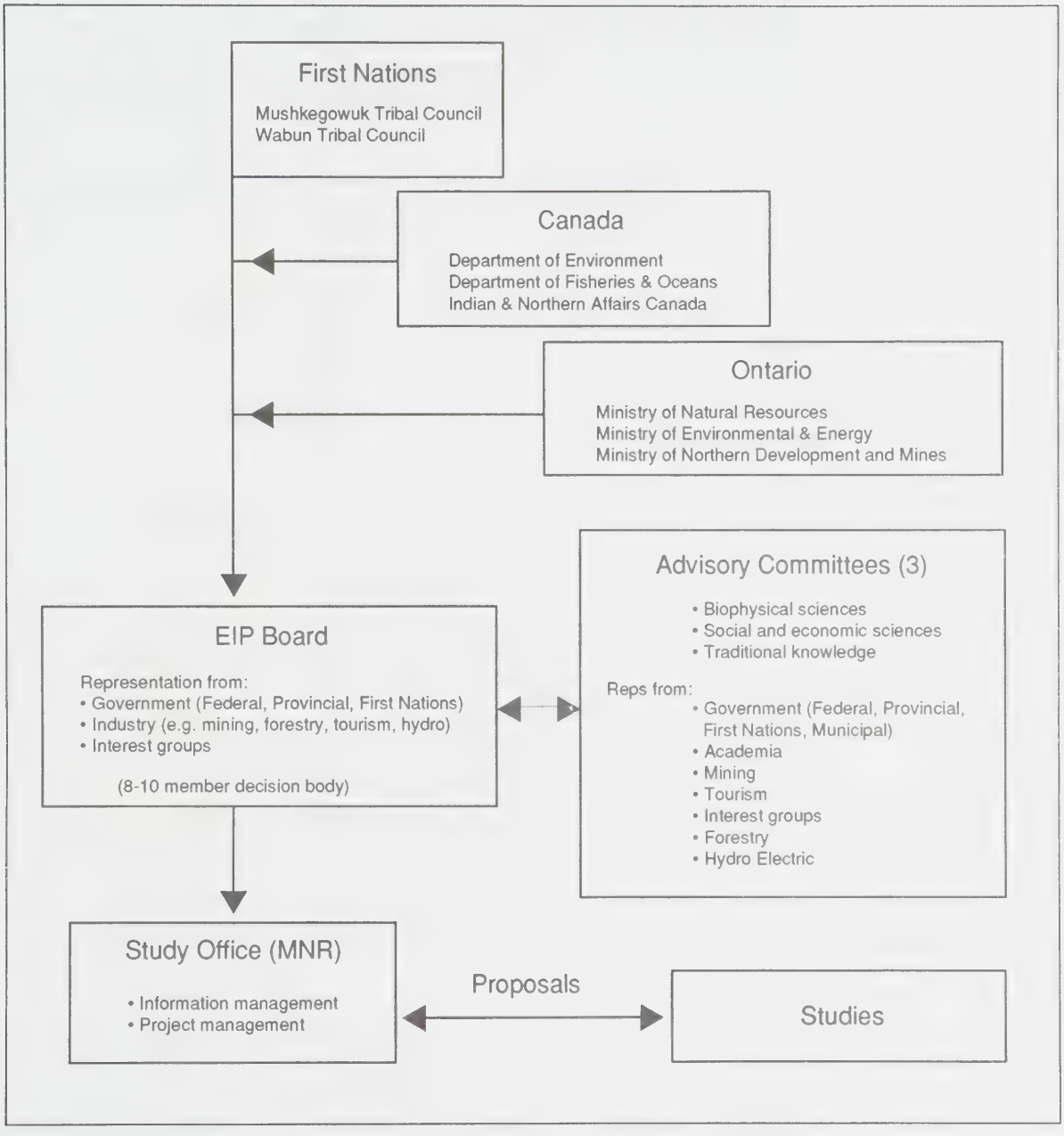

Figure 3. Moose River Basin - Environmental Information Partnership Structure

2.2 The Study Office

The study office will be accountable to the EIP Board and be responsible for the management and administration of the EIP on a day to day basis. The study office will be located within the Ministry of Natural Resources (MNR) - Operations Division. The MNR will be the coordinating government agency for the EIP. The duties of the study office will be to:

- establish a communications mechanism to integrate the various functions of advisory committees, the EIP Board and the study office;
- develop reporting protocols, including interim reports, translations, and plain-language versions;
- develop, operate and maintain the information management system;
- develop communication mechanisms through annual plans, ongoing consultations, and public relations;
- evaluate the studies proposed to the board by each of the advisory committees and analyze proposals from study proponents;
- coordinate study implementation, consulting services and monitoring activities;
- develop a business plan to include non-tax revenue; and
- provide administrative, personnel and financial management support.

The staff in the study office will comprise a project manager, administrative and management support, and one scientist from each of the advisory committees (described below). During the first year following implementation, the study office will require four person years of time with numbers increasing as and when needed.

2.3 The Advisory Committees

Advisory committees are required for each of the biophysical sciences, social and economic sciences and traditional knowledge disciplines. The members will comprise leading scientists from industry, government, consulting companies and academia, as well as representatives from stakeholder groups. The anticipated number of members on each committee is five.

The role of the committees will be to identify study areas, to evaluate and recommend proposed studies, and to provide peer review for proposed, ongoing and completed studies. The committees will also prioritize, for both proponents and the study board, the selection of appropriate baseline criteria, stress indicators and state of the art methodologies.

Each committee will establish a data base for its specific disciplines, allowing for integration with information collected by other committees.

2.4 The Key Partners

Federal, provincial and First Nation governments were represented on the task group responsible for the development of the EIP proposal. Although the proposal development was led by a provincial agency (MNR) it is expected the federal and First Nation governments will support and endorse the EIP. They will be represented at a number of different levels within the EIP.

Other partners from the industrial and academic sectors are also expected to support the EIP. Their participation will focus on the discipline components relevant to their interests. Their contributions will be in the form of either monetary contributions or support in kind.

3.0 EIP Benefits

The EIP will provide benefits to all partners and participants, including industry, First Nations, governments and other stakeholders.

3.1 Efficient Decision Making

Efficiencies will be realized in terms of development proposal and review processes, information management and the cost-effectiveness of both.

The EIP will:

- support planning processes and encourage economic activity that is environmentally sustainable;
- provide proactive data-acquisition that will allow for improved planning decisions;
- streamline the existing review process by improving project scoping and information acquisition; and
- contribute toward making existing policy more relevant, assist in building policy and a framework for addressing CEA, information management and sharing, and partnerships.

3.2 Increased Funding Efficiencies

The "arms-length-from-government" nature of the study board will result in funding efficiencies. It will:

- eliminate duplication and redundancy within government, industry and stakeholders;
- provide "seed money" that can be used to generate other types of funding; and
- consolidate and centralize information, leading to improved access to information.

3.3 Improved Knowledge and Information Base

Existing information will be consolidated and new types of information, such as traditional knowledge and "state of the environment" reports, acquired and made available to all Basin stakeholders. The EIP will:

- provide unique opportunities for improving the knowledge base required for ecosystem management on a watershed level;
- contribute towards a common understanding of the present "state of the environment" of the Moose River Basin which will thereafter constitute a benchmark for establishing future goals;
- be the first explicit recognition by Ontario of the value of traditional knowledge;
- provide the first formal integration of environmental science with traditional knowledge in a watershed context in Ontario; and
- provide the common information base that is necessary to enable co-planning, and to address past grievances, for example.

3.4 Reinforce Partnerships

The EIP will reinforce partnerships amongst Basin stakeholders through the study board's process of cooperative prioritization of stakeholder values and concerns. The collective selection of studies to be commissioned will help to minimize bias and to encourage study objectivity. The EIP will also:

- provide a forum in which to share values and cooperatively and proactively prioritize information needs outside the often confrontational atmosphere of a pending development proposal;
- build a working relationship amongst government and stakeholder interests;
- provide an opportunity for public communication, lobbying, and education to occur on a Basin-wide scale;
- respond to public demands and the 1992 Basin consultation processes;

- serve as an initial step towards the satisfaction of First Nations' and other stakeholders' concerns for CEA in the Basin; and
- contribute towards the achievement of Ontario's commitment towards First Nation self-government, as the EIP has been developed cooperatively by three governments: First Nations, federal and provincial.

4.0 Concerns

Concerns with regards to the implementation of the EIP have been identified by various government staff and stakeholders. The most prominent of the concerns are that:

- there is no guarantee that funding or "support in kind" will be provided in the short or long term by the province or its partners;
- the EIP is perceived as the creation of another bureaucracy;
- the EIP will break down if it does not live up to the expectations of one or more participants or beneficiaries;
- the existing policy framework for an EIP, or for the preparation for CEA, is to a great degree untested; and
- the EIP is vulnerable to non-cooperation on the part of stakeholders.

The Board will be proactive in the management of these concerns.

5.0 Implementation, Phasing and Costing

The implementation of the EIP will occur over three phases. Figure 4 provides a brief outline of each phase.

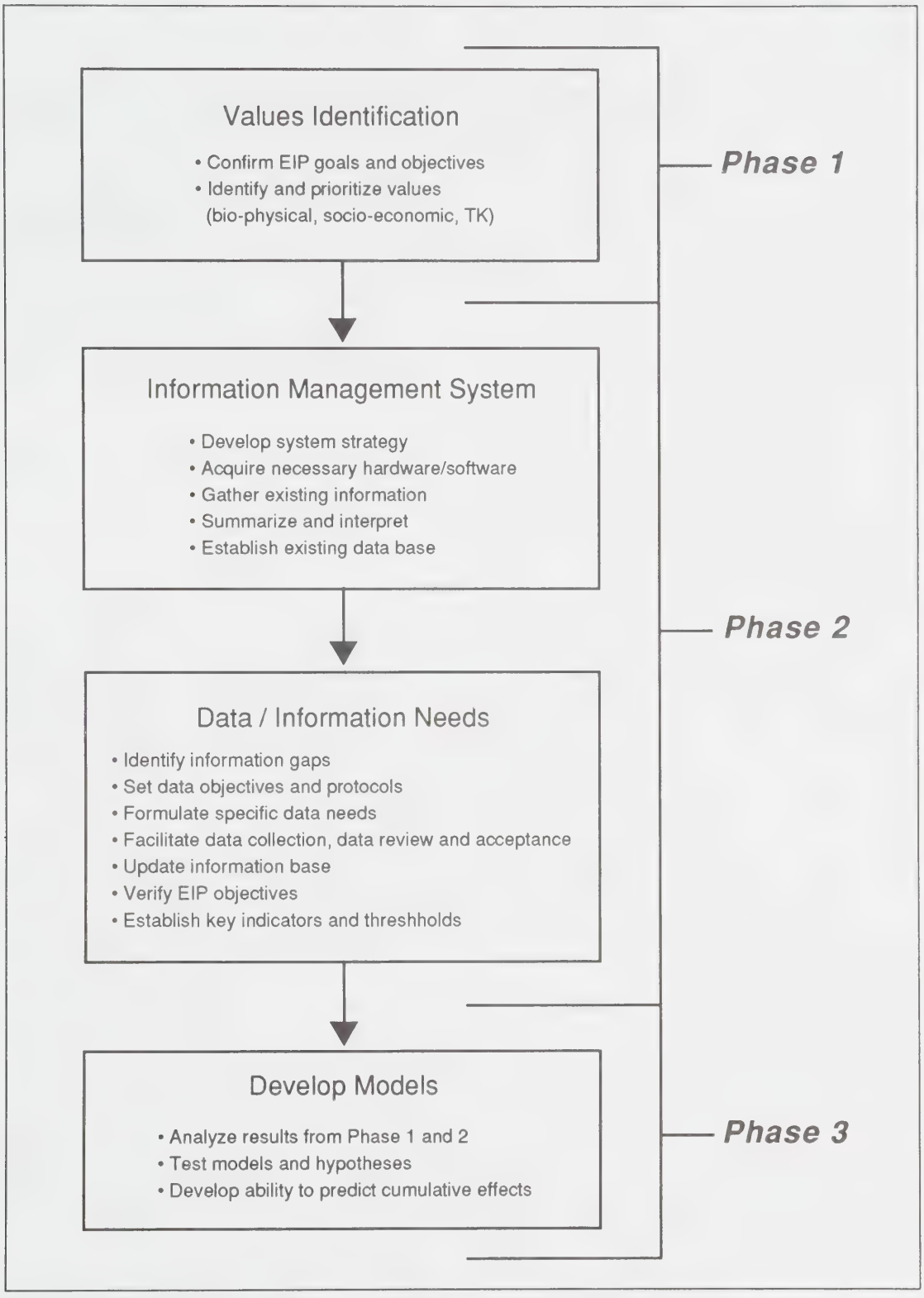

Figure 4. EIP Implementation

5.1 Phase 1

An initial "Start-Up" year (Phase 1) will establish the infrastructure (EIP Board, study office, advisory committees, office, equipment/hardware needs), identify and prioritize stakeholder values, assess existing data, initiate pilot studies and further scope needs for new information. Public consultation forums will be held and Basin stakeholders and resource management specialists will identify their Valued Ecosystem Components (VECs). The VECs will be prioritized in consideration of potential development scenarios including forestry, mining, hydroelectric development, tourism and agriculture. A protocol will be developed for continuous re-evaluation of priorities.

A more detailed, multi-year funding strategy will be developed. Costs for Phase 1 are estimated to be $750,000 over one year.

5.2 Phase 2

During this phase, the information management system will be developed. The system needs to be able to integrate diverse data sets, to process and evaluate data collected over a long period of time, to relate data to physical space, and to support the sharing of accurate and timely data between partners and government agencies. Emphasis will be placed on the acquisition of system components (hardware and software) and system operational skills.

Geographic Information Systems (GIS) are one of the tools required to manage the information. GIS, in combination with other analytical techniques, will be used to explore cause and effect relationships between environmental processes. A preliminary model for information management is shown in Figure 5.

Based on the priorities derived from Phase 1, existing information will be assembled, evaluated, prepared and entered into the management system. Information gaps will be identified and an assessment will be made as to the costs and benefits of gathering the missing information. Requests for proposals will be solicited and assessed, and coordinated study operations will begin.

Costs for Phase 2 are estimated to be $1.5 million for each of five years.

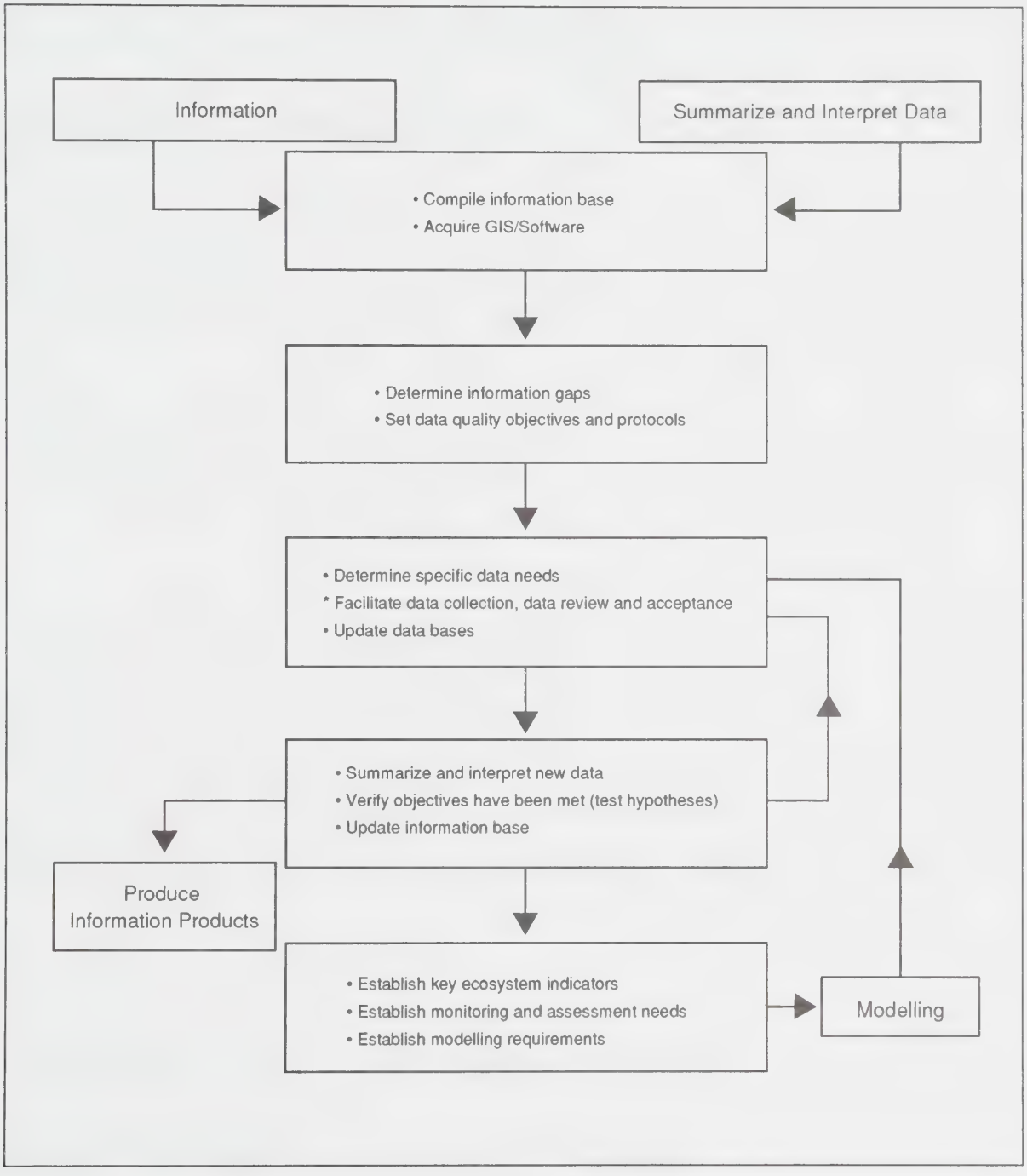

Figure 5. Information Management System

5.3 Phase 3

Phase 3 will focus on optimizing the use of the information base assembled in the first two phases. There will be less reliance on the collection of new information and more emphasis on testing models and hypotheses. Emphasis will be on the development of the ability to predict cumulative effects.

Costs for Phase 3 are estimated to be $330,000 for each of three years.

5.4 Cost Estimates

Total cost of the EIP to the Provincial government is estimated at $ 9.25 million over the proposed nine year time frame. The provincial contribution is viewed as "seed money" and is expected to at least double as a result of other contributions.

The preceding estimates were derived from comparisons with similar initiatives in Alberta, such as The Northern River Basins Study, with adjustments for scale, remoteness, existing development and a general understanding of the level of existing information in the Basin.

5.5 Contributing Partners

The contributing partners within the government of Ontario are the ministries of Natural Resources, Environment and Energy, Northern Development & Mines, Culture, Tourism and Recreation, and the Ontario Native Affairs Secretariat. Within the government of Canada the departments of Fisheries and Oceans, Environment, Health and Welfare, and Indian and Northern Affairs are potential contributors. Industry associations include the mining, forestry and tourism sectors and Ontario Hydro. These partners could provide support via direct funding and/or through "support in kind". "Support in kind" from partners would likely be in the forms of:

- provision of EIP Board members, study office staff and/or advisory committee members;
- per diem and expenses for those board or committee members requiring funding;
- access to GIS, information management systems and expertise; and
- provision of office space and/or facilities, research support, graphic arts assistance, aircraft or laboratory analysis.

6.0 Summary

The EIP will result in benefits for all partners and participants as well as for potential proponents. Proactive data acquisition will permit improved planning decisions, increased efficiencies in assessing the environmental effects of proposed developments and reduced need for risk-management. It will also decrease the probability of costly remediation by government or proponents. The management, access and acquisition of information will be improved. The EIP forum for sharing values and information will create and reinforce partnerships amongst Basin stakeholders.

The EIP Board will provide overall direction and priorities to ensure integrity and objectivity are maintained via an "arms length from government" relationship. The board will seek funding efficiencies, ensure balanced representation and strive to eliminate potential bias.

It is also anticipated that, throughout the EIP development, new policies and legislation will be tested, and old ones challenged. Given that it will unite representatives of all the concerned governments, the EIP will play a dynamic role in improving the relevance of policy, particularly in the areas of cumulative effects assessment, information management and sharing, industry/First Nations/government partnerships, and cooperative research.

This proposal provides a brief outline of the results of the task group's efforts. A "Foundation Document" (MNR, 1994) has been compiled and includes reports that were commissioned by the task group, relevant reference materials, and summaries of the consultations and other task group activities. This document will serve as a "springboard" for those involved in implementing the Environmental Information Partnership.

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